



Officer In Charge of Construction, Naples

Facility Commissioning (The Hospital)

5 February 2003





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Overview - Support Site

Complete support city

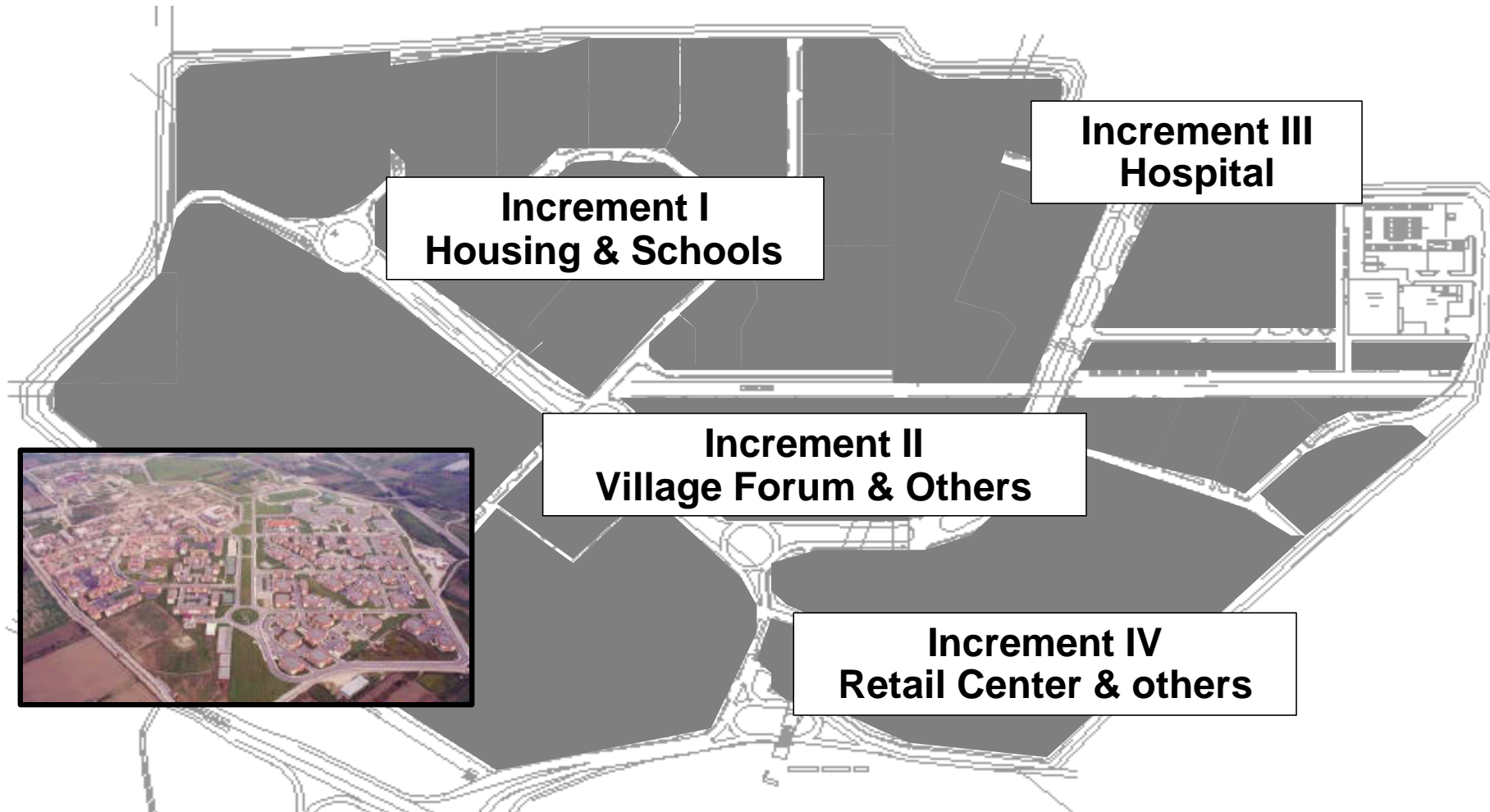
- Replaces inadequate Agnano facilities
- 124 buildings, 200 acres, 2M SF (acquiring add'l FP/hsg)
- Rural, uncongested setting
- Fully contained security perimeter
- Reliable utility systems
Water supply, HV substation, Nat Gas
- Design, Build, Lease Maintain Program
Value: \$440M
- 100% Private Financing





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Overview





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Project Information

Medical/Dental Facility



Hospital:

- 20 Beds, 577 Rooms, 4 OR's
- MRI, CT Scan, Digital Imaging
- Dedicated Energy Plant

Design Build / Lease / Maintenance

Contractor: **JV (Impregilo/Mirabella)**

FY03 BUYOUT: **€40 M**

Medical Equip/Turn Key/Via Contractor



Hospital Acceptance – Feb/Mar 03



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Project Information

Construction Provided Systems



Mechanical

- 3 Steam Boilers (@1635 kw)
- 3 Chillers (@1235 kw)
- HVAC 22 zones, incl med'l
+ Complex Digital Control
- (7) Water Treatment Systems

Electrical

- MV Substation
- 3 Diesel Gene (@800kw)
- Specialty Systems:
security, nurse call, PA

Medical

- OR Surgical Columns
- Cent Medical Gas System
- Sterilizers
- Audio Booths
- Lab Eqpt & Hoods



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Project Information

Medical Equipment Turn Key



\$9.0M Program

General Electric Radiology
(MRI, CT-Scan, 3 X-Ray, Mammo)

Cisco IT Infrastructure
* fully integrated with Digital radiology

Drager Surgical & Anesthesia
Eqpt, In-patient Eqpt

Desktop & Wallhung Eqpt
(Dental, Med Clinics, Eye Clinic, Labs, ER, Cardio monitoring, etc)



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Commissioning Goals

- 1. Construction provided systems fully functional @ BOD.**
- 2. Turn-key medical equipment accepted @ BOD.**
- 3. Hospital staff fully trained @ BOD.**
- 4. Contractor provided O&M Program @ BOD.**
- 5. Government furnished furniture installed @ BOD.**
- 6. Mock Patient Days @ BOD + 1 week and + 2 weeks**
- 7. Fully functional Hospital @ BOD + 4 weeks**

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Early Access

- **Move-in Navy Provided Furniture** **BOD – 4 months**
- **Install/Test Medical Equipment** **Pre-BOD**
- **Navy Training on Medical Equipment** **BOD**
- **Post-BOD Hospital Transition:** **BOD + 4 weeks**





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Commissioning Program Elements

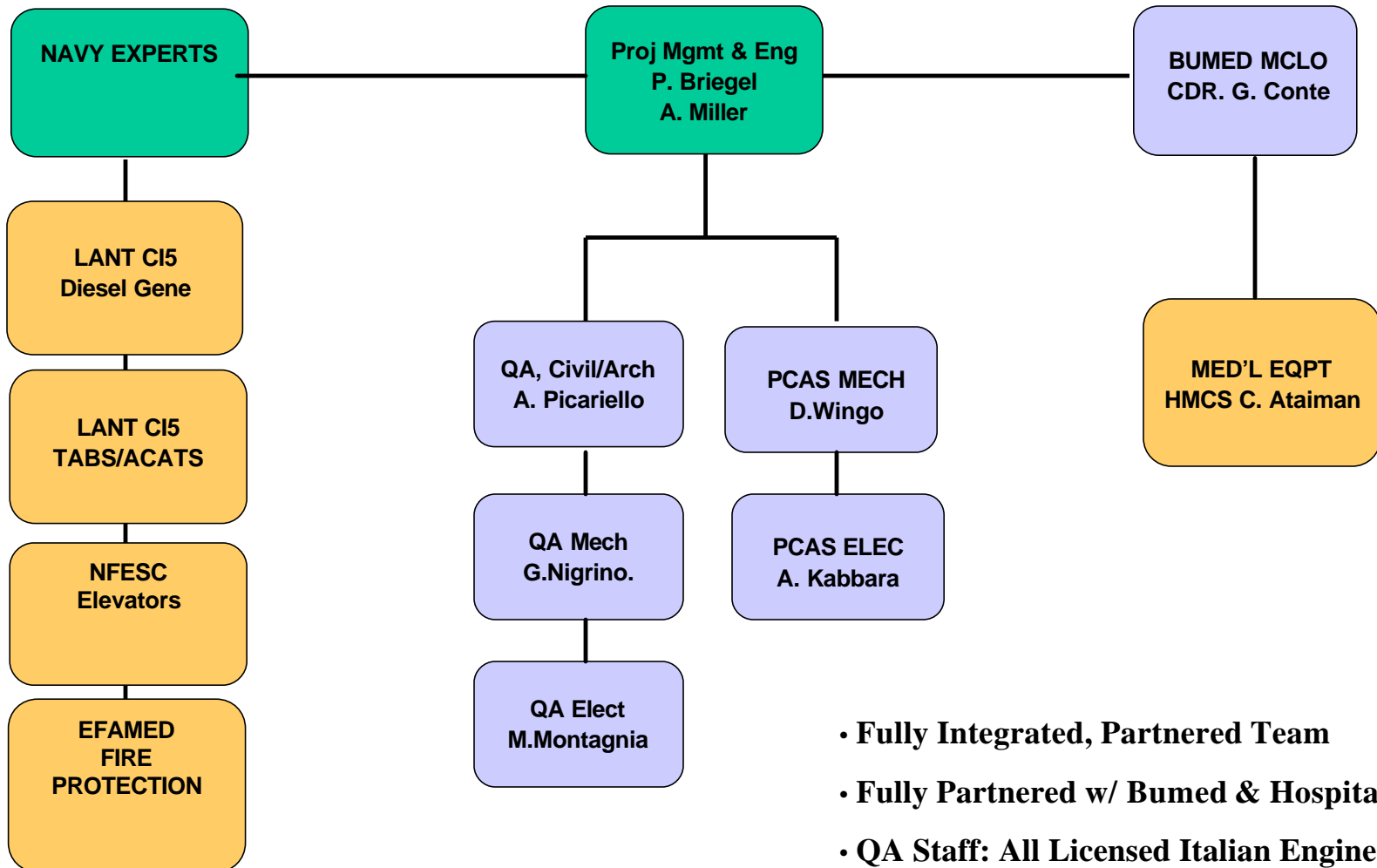
- 1. The Organization**
- 2. System Testing & Acceptance**
- 3. Technical Documentation & training per specs**
- 4. O&M 12 Month Prove-out Period**
- 5. Turn-key medical equipment support**
- 6. Planning Group (OICC, BUMED, Hospital)**

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The Organization



- Fully Integrated, Partnered Team
- Fully Partnered w/ Bumed & Hospital
- QA Staff: All Licensed Italian Engineers



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System Testing & Acceptance

- 1. Test Plan Development (Contractor & OICC)**
 - Confirm design requirement & contractor understanding
 - Consider scheduling and Navy expert support
- 2. NAVFAC Expert Support**
 - Submittal Review
 - In Progress Site Visits
 - Test Participation
- 3. OICC staff: 100% participation of all equipment and systems level testing.**
- 4. Project Goal: Acceptance (BOD) only if all hospital mission-related systems function per design.**
 - ***** No Acceptance = \$0 Payment**

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System Testing & Acceptance

5. Expected Vulnerabilities

- Fire Protection
- Elevators
- HVAC TABS/ACATS
- Data Network Integration
- Diesel Generators
- Medical Systems
- Gen'l Mech/Elec

6. Design: Fully detailed, incl testing req't

Ex: HVAC TABS/ACATS

- Control Diagrams
- Sequence of Ops
- Test Requirements
- Qualifications!!!

7. Partnered Agreement:

- Contractor to utilize highest quality European vendors and consider needed technical support. Ex: TABS Agency (Same as Capo)
- Maximize cooperation with Navy, incl experts.

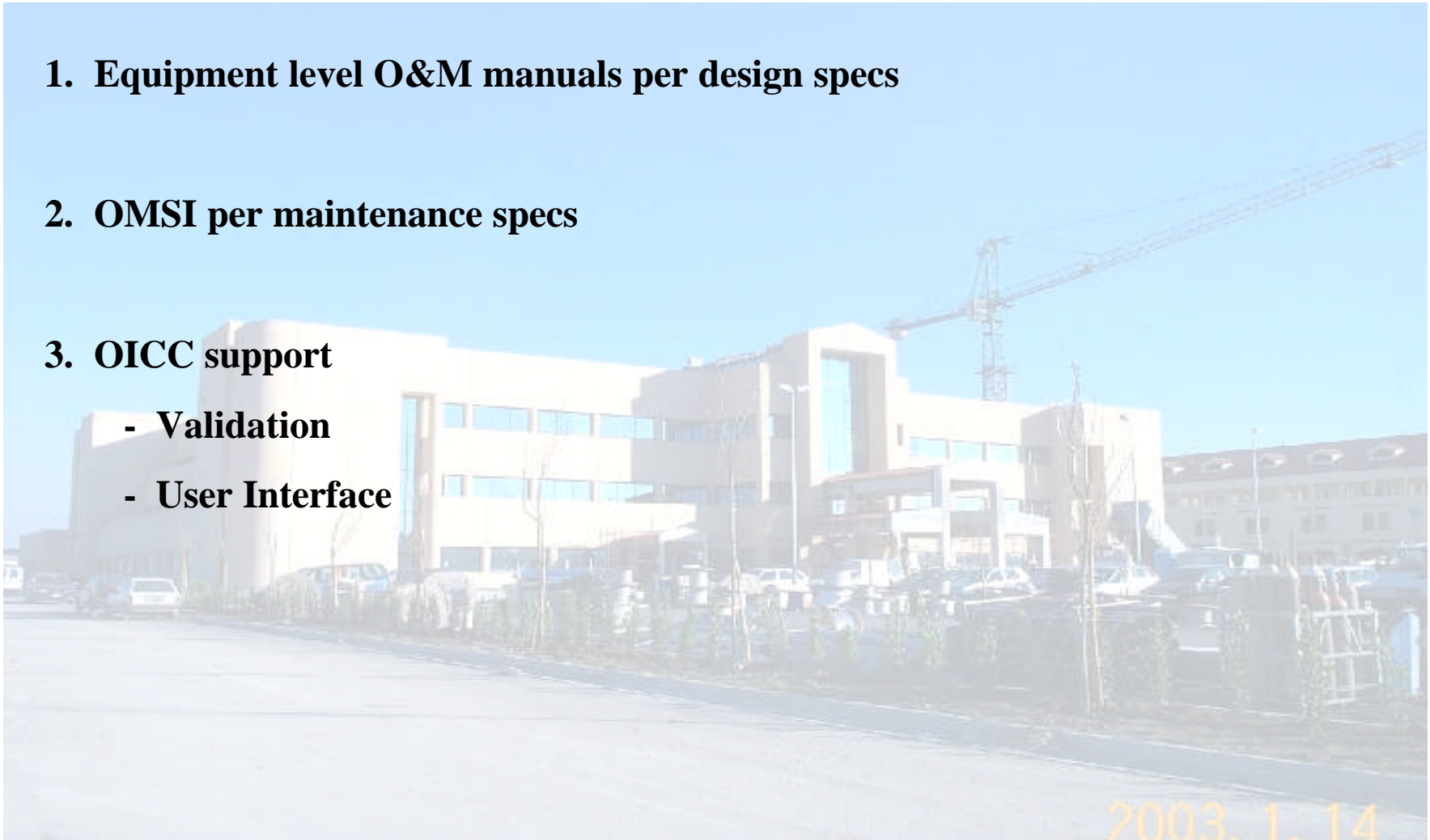
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Technical Documentation

1. Equipment level O&M manuals per design specs
2. OMSI per maintenance specs
3. OICC support
 - Validation
 - User Interface





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O&M Program

Comprehensive O&M Program per Maintenance Specs
1-year base with (2) 1-year options

OICC Role

- **Program Coordinator - Contract Admin**
- **Customer Interface - System & Equipment Eng'g support**
- **For 6 months: QA of contractor O&M efforts**

O&M Program Elements

- **Constructor 1-year Systems Operational Prove-out Period**
Daily: on-site, system checks, recurring work, testing.
Specialty system support via manufacturers
- **Preventive Maintenance (complete facility)**
- **Emergent repairs (service calls)**
- **Annual certs (boilers, elevators, medical gas, sterilizers)**

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Turn-key Medical Equipment Support

Contractor provided (Impregilo). Similar to private industry.

State of the art European medical equipment

- EU subsidiaries of Gen'l Elec, Cisco, AGFA, Phillips, Kavo, Castle, etc
- Cost competitive (local market)
- In-theater maintenance support

Design, test, integrate into Hospital Pre-BOD

- Post-BOD transition time reduced from 6 months to 4 weeks





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Planning Group (OICC, BUMED, Hospital)

Mission: Facilitate smooth transition to new Hospital

Members: OICC, Hospital, BUMED, PW

Typical coordination efforts

- **Lease Issues**
- **Permits**
- **Maintenance requirements**
- **Services Contract requirements (trash, janitorial, utilities, fuel)**
- **Base-wide system initiatives (security, fire, phone, etc)**
- **Certifications (JACHO, local authorities)**
- **Funding Issues**
- **Move-in considerations (equipment, training, storage)**
- **Hospital Issues (helo-pad, parking, grand opening, lodging)**

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Recommendations

1. Incorporate O&M Prove-out Period in design docs

- Tailor support/duration to project needs
- Consider Public Works customers needs

2. Consider Equipment Turn-key Procurement

- Source Selection yields quality, specialized contractors
- Complex system integration benefits
- Reduced transition time & post-BOD equipment retrofit

3. Extend ROICC role to include post-BOD transition

- Contract admin
- Customer Interface
- Technical support



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An aerial photograph of a harbor filled with numerous sailboats and yachts. In the background, a large, rounded mountain rises above the city skyline. The word "QUESTIONS?" is overlaid in large, blue, italicized capital letters across the center of the image.

QUESTIONS?